

SatFACTS EXTENDED

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Coop's note: This report deals with an attempt by a major Ku-band DTS service provider (Echostar Satellite) in America to force distributors and dealers in FTA (free to air) receivers to reveal their customer lists. Echostar maintains consumers are purchasing receivers (from a number of brand names including Viewtech, Panarex, Freetech) 'primarily because these receivers can be user adapted to receive Echostar's conditional access (pay) channels'. Hundreds of distributors and dealers throughout North Americas have been legally 'served' by attorneys for Echostar with documents demanding they supply their client names, address, telephone and fax contact numbers, E-mail contact information, and a complete record of how many receivers each has purchased, and when they did so. At least one outside group has declared this 'search and destroy' approach bringing all customers into a single category of 'guilty until proven innocent' is illegal.

The EFF

They are known as (The) 'Electronic Frontier Foundation' and claim 'more than 10,000 dues-paying members'. EFF evolved in 1990 from a small group of Internet pioneers who had begun to detect an interest by world governments to legislate limits on the developing technology. Some view EFF as a modern electronic version of the ACLU (American Civil Liberties Union); that is only partially correct. Where ACLU attempts to correct a wrong that *has been* perpetrated, EFF concentrates on wrongs that *'will be* perpetrated' if new legislation or court decisions are allowed to develop without oversight; EFF oversight.

EFF's field is as broad as the entire electron universe; they have injected themselves ('friend of the court') into hundreds of cases, hearings, rulings before - during - after the fact. Their involvement in everything from wireless garage door openers to America's Diebold Election Systems flaws uncovered during the 2004 national vote is but the tip of the activity. EFF is headquartered in San Francisco but maintains an office in

Our Pacific-Asian History with 'FTA' Hybrids
X-Box from Strong. When it hit the market, the word spread fast; 'It will decode Zee from AsiaSat 3'. Indeed it would - first you went into the menu, then using a 'current month's number' sourced on Internet, entered it and backed out of the menu.

There were as many as a dozen (give or take a few as it changed frequently) channels of which at least two were in English (a movie channel and a general entertainment channel). Zee closed the hole in their encryption after a few months, and X-Box attention shifted to Austar and Aurora where with assistance from Internet the boxes would play after a fashion. After a few months those quirks also disappeared. The last gasp for the X-Box was the April 22nd (2008) shut-down of virtually all backdoors. The receiver remains that way today. So why can't Echostar close their hole?

Washington and another in Brussels. Most of their expertise is provided 'pro-bono' (without charge) by individuals who have very specialized computer, electronic, software skills.

EFF has filed an 'Amicus Curiae Brief' in United States District Court (Northern California) in Case No. 07-6124 (JW) (RS); "ECHOSTAR SATELLITE LLC, et al (Plaintiffs) v. FREETECH, INC. and DOES 1-10" (Defendants). A review on their application to appear before the court in advance of the actual trial (ECHO v. FREE) will be heard in San Jose, California on September 15.

ECHOSTAR is suing FREETECH and others (such as Panarex) claiming that Asian designed and built free to air (FTA) receivers being sold in North America have been specifically configured to allow after-market modification (by the customer-user). And the purpose of the mod? 'To allow illegal, unauthorized access to ECHOSTAR's (DISH Network) subscription television.' There are at least six 'brand names' competing for the still

In this issue: When is a FTA receiver NOT a FTA receiver?

lucrative FTA marketplace in North America (a Ku-band dish produces upwards of 400 channels of service while C-band adds an additional 250-plus). ECHO originally brought similar charges against Viewtech (SF#158, p. 10) and subsequently added similar or identical suits against Panarex and Freetech.

In non-technical and non-legal terms, ECHO wants the court(s) to rule (1) *'The majority'* (over 50%) of all such receivers sold are in fact modified with an injection of new software sourced on Internet allowing unrestricted, illegal, access to DISH programming; (2) There is no *'real'* market for FTA receivers in North America; they exist *only* for the purpose of being user or post-sale modified; (3) The firms creating FTA receivers which have the after-sale ability to be field modified for unrestricted access to DISH programming are guilty of promoting an *illegal* activity.

In fact, ECHO might have a point but proving it in a court of law could be cumbersome. In addition to the six or so brands that are capable of being modified, there are several dozen others which will handle pure FTA but are not known to be capable of drilling into DISH's mother lode. The defense is likely to attempt to prove (1) There is no way of determining whether receivers *are modified* after sale and if so, by what percentage of the total sold; (2) There *is* a significant FTA market in North America, with testimony from experts and users to back up that claim; (3) The under-attack receivers have not been *deliberately* designed to accept after-market software.

None of this save one side effect is on the table in the court hearing for September 15th. It is issue number one ('the majority of receivers sold are modified') that has attracted the Electronic Frontier Foundation into the fray.

In 2004, DISH competitor DirecTV was distributing thousands of letters demanding 'cash settlements' from people who had been found to be customers of one or more software/hardware program sellers. The package in question allowed a DirecTV smart card to be modified, at home, so as to receive the pay programming - *without paying*. DirecTV had somehow managed to intrude into the records of the software suppliers to determine tens of thousands of folks who had purchased or downloaded the hardware and/or software. To each of these names DirecTV sent a *'Letter of Demand'* - pay up or face a court case to determine your guilt (or innocence). In effect, DirecTV had pronounced every individual who purchased the particular equipment to be guilty of violating their encrypted programming. The demand amounts varied averaging in the region of US\$3,500, carefully crafted to be *less costly* to the defendant than hiring an attorney and interrupting their lives by being in court against a battery of highly skilled lawyers for DirecTV. One individual receiving the demand balked at the premise alleged by the demand letter; his name was *Mike Treworgy*. In the 11th Circuit Court of Appeals,

Treworgy prevailed when the court found *'mere possession* of smart-card technology' is not a crime. With the assistance of EFF, DirecTV then elected to drop its aggressive *'guilt-by-purchase'* litigation strategy.

Which brings us to the Amicus Curiae brief filed late in August. Defendant Freetech was under a demand from Echostar seeking access to the full sale records of Freetech products and Freetech had asked the court for a *'protective order'*. Echostar wanted access to the customer records because they intended to contact each of the buyers to determine (under threat of becoming named in a suit no doubt) how the equipment was being used. *'Has it been modified?'* *'How has it been modified?'* *'By whom was it modified?'* *'What does it do now that it did not do before modification?'*

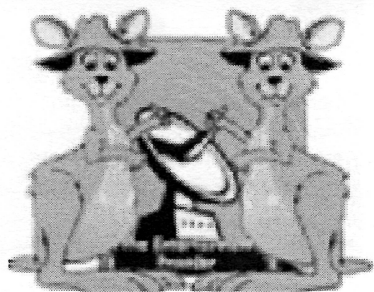
EFF believes this demand, identity of who has purchased receivers (from all of the firms named to date but on September 15th only Freetech), is *'overbroad discovery'*.

"As part of its mission, EFF has intervened in a number of cases to protect the privacy interests of digital technology users targeted by *overbroad discovery* requests. EFF has served as counsel or amicus curiae in cases involving privacy interests of users of Internet search engines - a brief addressing discovery request that would require an Internet search engine to create logs of user's search activities - users of digital video recorders - addressing discovery request aimed at disclosing television viewing habits of ReplayTV digital video recorders - and anonymous contributors to Internet discussion forums - to resist discovery requests aimed at revealing the identity of anonymous speaker(s)."

In the instant case, EFF tells the court: "This discovery dispute raises a question that reaches well beyond the commercial interests of the parties; if an individual purchases a device that could be modified for unlawful uses, is that individual's privacy forfeit when an aggrieved party later issues third-party discovery in a civil suit against the device manufacturer?"

"Here, in order to protect the important privacy interests of entirely innocent purchasers of Freetech FTA receivers (i.e. those who have *not* modified their devices for unlawful uses), this Court should enter a protective order curtailing the scope of Echostar's *overbroad* July 25 Subpoenas."

"The July 25 Subpoenas seek the identities of individuals who have done nothing wrong. Echostar admits that Coolsat receivers cannot intercept Echostar's encrypted television programming unless they are modified with *'Pirate Software'*. Echostar's July 25 Subpoenas, however, seek names, addresses, phone numbers and email addresses for every purchaser of Coolsat receivers over the past 5 years, without regard to whether the purchasers have made any *'Pirate Software'*



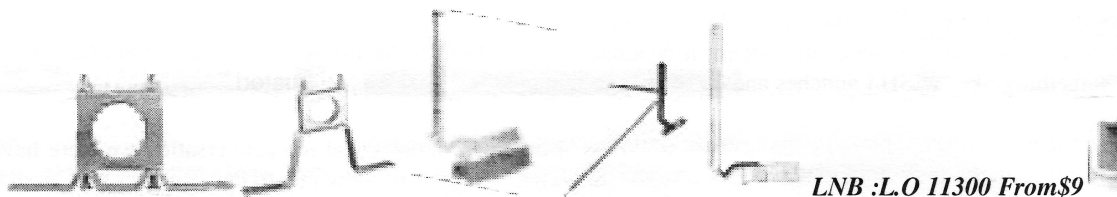
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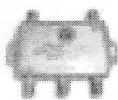
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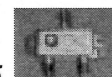


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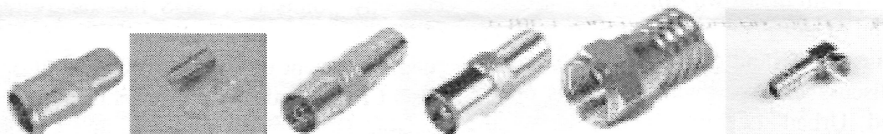
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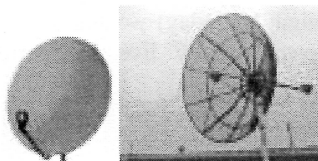
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modifications." Served (initially) on 17 nonparty distributors of Freetech products, the subpoenas demand:

'Documents sufficient to identify each Person who purchased or otherwise obtained a Coolsat receiver or Receivers from You during the period January 1, 2003 to June 30, 2008, including each Person's name, address, phone number, and email address, and the purchase date, purchase price, purchase quantity and model number for each receiver.'

Unsaid by Echostar is what it intends to do with this information. There can be little doubt about that question; they intend to contact the end users, whether through a dealer (the next group to receive subpoenas of course as they stand as a 'buffer' between Freetech, the distributors, and the ultimate user), or directly. In previous legal cases where someone has attempted to identify 'end users' - witness how DirecTV handled those who had purchased hardware or software capable of decrypting their defective conditional access system - it would be the users, 'those guilty of modifying receivers' or 'using a modified receiver', and, those who did not, would/could be ultimately served by subpoenas. In the DirecTV case, end users were given two choices: (1) pay up as an admission of guilt and DirecTV would not take them to court (and seek far larger dollar damages), or, (2) contest the subpoena. *You don't have to be guilty here* - you have only to fear how a powerful corporation with unlimited resources can make havoc in your life by formally charging you with something and hauling your butt into court - to result in your deciding (as in the DirecTV instance) "paying them \$3,500 to end this is my best option". In America, \$3,500 won't buy you very much in the world of lawyers and court fees. And even if you are not guilty, there would remain until the end of a trial the possibility you would be found guilty. Which is where something known as the DMCA enters the picture.

The Digital Millennium Copyright Act (DMCA) is US law that ties together a pair of international treaties first adopted in 1996 (the so-called WIPO agreements). DMCA attempted to assign criminal prosecution to the production and dissemination of technology, devices or services that would, could, might-even violate 'copyright'. Under the DMCA, 'copyright' was extended far beyond the limited previous definitions protecting printed works, pieces of art, musical works. DMCA identifies digital rights management (DRM) as a new legal foundation and enlarges the definition of violation to include 'circumventing an access control system' in place to prevent reaching a copyright protected item. DMCA makes it a criminal act to do a 'work around' on a computer program 'access system' even if in doing so you do not reach or gain access to or violate the actual copyright protected material.

Possessing the 'keys' to unlock or attempt to unlock a digital rights management 'protected' routine is now criminal. It was on this broadly defined basis that DirecTV relied when it sent *'Letters of Demand'* to thousands of individuals they had identified as purchasers of a particular hardware and/or software system. As it would turn out, the hardware/software in question was not specific to reprogramming DirecTV (or other pay-TV) smartcards; the package had dozens, hundreds of other uses, all legitimate. It was on this basis that Mike Treworgy would tell DirecTV "*see you in court*".

It is on this point that EFF is protesting the 'overbroad' subpoena demands of Echostar and the September 15 hearing will focus only on that issue (a second almost identical hearing is scheduled at the end of September on behalf of Panarex; if the court rules in favour of EFF/Freetech on the 15th, the Panarex hearing will be a carbon copy as the issues are identical).

Support for the DMCA (and revisions subsequently added to the original law) is anything but uniform. Well respected computer scientist Timothy B. Lee has written:

"The DMCA is anti-competitive. It gives copyright holders - and the technology companies that distribute their content - the legal power to create platforms and exclude competitors from interoperating them. Worst of all, the DRM technologies are clumsy and ineffective; they inconvenience legitimate users but do little to stop clandestine efforts to crack platforms."

There have been some perhaps intended inequities as well. For example, in the area of analogue video copying protection, DMCA dictates that all firms making videos shall incorporate a proprietary anti-copy program known as Macrovision into both video tapes and video players. Video tape may well be a swan-song format but for as long as it hangs in there Macrovision has a guaranteed income courtesy of DMCA.

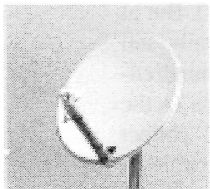
Even *discussing* in an open forum anti-DRM or DMCA software routines is illegal. The first prosecution of the 1998 enacted DMCA occurred in mid-2001 when a Russian, Dmitry Sklyarov, was arrested immediately after appearing as a speaker at a Chicago conference where he described his new 'Advanced eBook Processor' (AEBPR). This was a software program of his creation, developed in Russia, which 'removed any and all limitations on an ebook purchaser's ability to copy, distribute, print or have the text read audibly by a computer, or other limitation imposed by the publisher or distributor of the ebook'. Those who have subsequently written about the incident ('First Arrest DMCA') often state their belief Dmitry was basically 'set up' to make a point at the federal level. He served time in a federal

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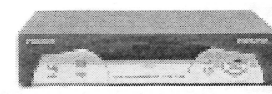


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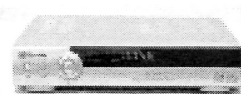
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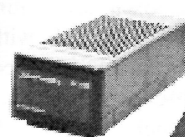
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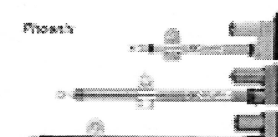
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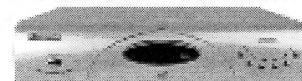
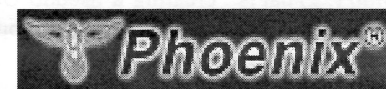


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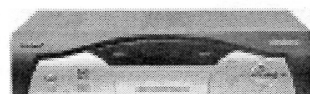


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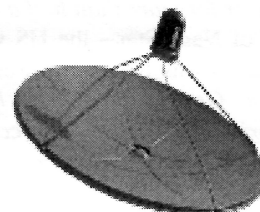
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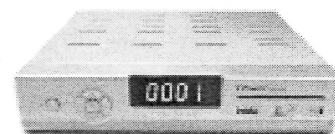
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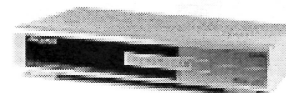


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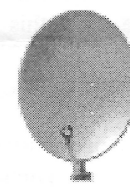


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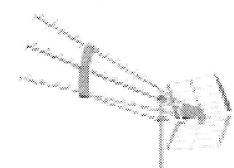


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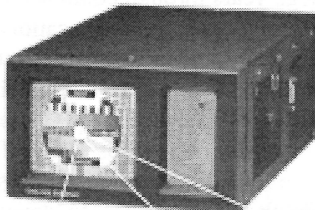
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prison before being deported, charged with 'conspiracy to traffic in technology primarily designed to circumvent ... technology that protects a right of a copyright owner'. Standing up in front of a conference and explaining his system was apparently an error on his part. Offering the program on Internet was another.

Dmitry appeared in a public place and spoke in person. There have been numerous attempts to use DMCA and DRM as a tool to snare people appearing on the web. Apparently, a written protest from a copyright holder claiming someone is offering circumvention knowledge, support or software is sufficient cause to force a website owner to take down allegedly infringing content or links which may in fact not be infringing. When a website owner receives a 'takedown notice' (now a formalized format and procedure after becoming a common practice) it is in their interest *not* to challenge the request, even if it is not clear if infringement is taking place, because if the potentially infringing content is taken down (as initially requested) under the DMCA/DRM language 'the web site will not be held liable'. If you detect a similarity between "don't fight it - just take it down" and the DirecTV 'Letters of Demand' requiring payment in lieu of being sued - well, that is no coincidence.

The use of web links to send users to other sites where material of a related nature exists became an issue when in December 2006 Fox (that would be the Murdoch controlled Fox) issued takedown notices to websites that linked to supposedly infringing clips on YouTube.

Most of the web industry cried 'fraud' answering that Copyright law does not allow someone to control who links to things you don't like. Others suggest that if you (as operator of a link listing) have reason to know the linked-to-site is in fact infringing, this could give rise to liability. How would someone who has placed a link on a site know the linked-to-site is infringing? Back to the 'takedown notice' procedure. Links, as with material actually appearing on a site internally, are subject to DMCA's 'safe harbour' provision; if you are *directly* notified by a right's holder of an alleged violation, you have two choices; take down the material, or contest the takedown notice and if you lose - well, there are not insignificant monetary penalties for not responding initially by taking down the alleged infringing material (or in the case of a link, directing people to such a source). The only way to escape possible prosecution for posting or linking truly infringing material is to stop your activity when first asked.

"OSP's have such a strong incentive to simply comply with takedown notices, courts get fewer opportunities to actually hear and decide the underlying copyright questions, like whether linking

to stuff on YouTube is (actually) infringing." (Fred von Lohmann, Senior IP Attorney)

That the DMCA has become a powerful tool to discourage innovation in areas such as encryption is no longer in question. Some of the legal attempts to use DMCA for private gain would be laughable if not so seriously taken by the business community. One quick example.

Chamberlain is a U.S. company manufacturing motor operated remote control operated garage doors. People lose or break garage door remote units and just as with television remotes, there was a market opportunity for someone to create a 'Universal Garage Door Remote'. A firm named Skylink would do this. But Chamberlain sued Skylink claiming they had 'reverse engineered proprietary encoding data' to copy into the universal remote. Under DMCA, there is a controversial provision (actually, most are controversial) nicknamed 'anti-circumvention' which attempts to set limits not on copyright per se but rather 'by design'. With EFF on their side, Skylink won a court decision; their universal remote could go to market.

The impact of DMCA has been felt worldwide with U.S. federal authorities arguing that '*any* cryptanalytic research violates, or might violate the DMCA'. This has created a dearth of new innovation from any firm which does not have a previous history in secure-computing or encryption fields; DMCA has had the effect of setting in place a glass ceiling; those in business before it became law stand above, those who were not are below looking up and in but fear how any innovation they might do will result in an immediate lawsuit.

Summary judgment

DirecTV used civil writs of seizure issued by U.S. District Court judges and U.S. Federal Marshals to seize and impound products and related business records from firms suspected of trafficking in products unfriendly to their NDS created encryption system. DirecTV then used these customer lists to deliver an estimated 170,000 letters demanding 'settlement' of (at least) \$3,500 from each individual identified with the seizure of records. DirecTV subsequently targeted individuals who did not capitulate in the face of the demand letter for litigation, resulting in more than 24,000 suits in federal court.

"In the vast majority of these cases, DirecTV had no evidence the individual in question had done anything other than purchase a device that *could* have been used to intercept DirecTV programming. Not surprisingly, this *overbroad* targeting meant that DirecTV's mass litigation campaign did a poor job of separating the guilty from the innocent."

When you fish with a net, you are likely to end up with some protected species along with the targeted catch.

Update on Pacific satellite operations

Scheduled launches: Nov. 14; NSS9 to 177W; 28 C.

Optus C1/156E: "Aurora's WLK (Westlink, W.A.) has ceased carriage of Perth Channel 31; was Friday nights, weekends." (IF, Qld.) "Aurora's T3/12.407V (30.000, 2/3) has changed the Queensland TAB radio channel label from 'QTAB' to QTAB-C1'; possibly because it is on both D2 Aurora business (also 12.407V, 30.000, 2/3) and C1. On D2, it is the only channel a normal Aurora card will decrypt. (AI, NSW) "Mis-information (SF#168). Foxtel T20/MCPC HDTV is not 12.720H; this is a 72 MHz wide transponder and while the centre frequency is indeed 12.700, when transferring from B3 where the centre was 12.688, that has carried over to C1 (27.800, 3/4). The remainder of this 72 MHz transponder is filled with quite weak (on a standard dish) SCPCs." (NS, Victoria)

Optus D2/152E: "Globecast continues to run occasional SCPs on 12.660V, 12.670V, 12.680V (all 6.670, 3/4). Most are feeds for horse racing (TVN) are typically FTA. One outdoor van uses channel label of 'GCH001' and HCHD01 has also been seen. The video format is standard 720 x 576 at around 8.3 MBit/s. The 'deceptive channel labeling ('HD) possibly dates back to when HD testing was done and Globecast moved from old B3 to new D2." (IF, Qld.) "CCTV9 (12.545V, 22.500, 3/4) was replaced with a colour test card late in August but the labeling remains CCTV. Also on this transponder, A6204, 'Radio MIR' is new, FTA and sounds Russian but in fact according to Internet it is a Montenegro independent station with around 80% Albanian language content. Of interest, 'competitor' UBI carries Montenegro's government TV channel 'TVCG'. Early in August UBI moved 'BAGH' (Iraq) from 12.421H to 12.707H. A new Coptic religious Arabic language channel (FTA) has been added to 'Aghapy' former PIDs on 12.421; 'CTV' with an EPG that reads 'Rabena Mowgoud - Coptic Orthodox Church'. Finally, UBI was testing on 12.707H (22.500, 3/4) with up to ten (10) TV channels - 3 are there full-time and the testing lasted only a few days." (AI, NSW)

Soapbox: "I am in Auckland, have a 3.7m one piece Canadian built (AMS) solid and want to try to an American domestic at 130W. Your thoughts?" (Andy) (Editor's note: Do not bother. Wayback in 1994, when SF began, we did a report on reception at Auckland University with a 7m mesh antenna using the then-analogue services from a number of 136-124W birds. With the best then-available low threshold receiver and a German built [NTi Digitex] Digitally Extended Low Threshold Demodulator, on perhaps four transponders over five birds, we could make out what was being said and done - a P2 signal at best. In Coop's Technology Digest (CTD), in about the same era, we did

extensive reports on 13/15/18m dishes installed in an attempt at bringing USA reception to Kapiti (west of Wellington) where if you were generous with your evaluation you might call reception P4 on the best channels (of which there were only a couple). The reality is 'back side' radiation, meaning *behind* a satellite opposite to where the bird actually points, is at best borderline even with monster dishes. The signal levels are very low to start with [far too low for 3.7m], they lack stability [very subject to abrupt up and down level changes of many dB], and if you are also at a low look angle the signals have to traverse through an undulating lower atmosphere [which only adds an additional instability factor to the reception levels]. Go back and re-read Mike Kohl's excellent report in SF-August [2008] for his take on VERY low look angle reception even in an area where signal levels are robust [as in 35 dBw and above].) "Optus has been playing with the Aurora cards - an update for the day's new key(s) which nominally requires a minute took several hours today (September 1)." (Angela) "My Healing HD STB (terrestrial) is on the way back to warranty repair after six months. Using the EPG programme reminder function deletes all channels." (Harold) "I am very impressed with the surround-sound on the HD channels. Most people are buying HD TVs with screens far too big for their rooms (it is like sitting in the front row at a theatre for a movie). I believe it would be wiser to select a smaller display screen (42" seems maximum for any but very large rooms or commercial clubs) and spend the extra money saved on a 5.1 surround sound system (the Blu-Ray have 7.2 surround sound which quite possibly, like too big screens for a room, is terrible overkill). Blu-Ray also labels this system 'High Definition' sound apparently because it is sampled at a higher frequency. As long as there are consumers who will only select 'the very best' there will always be some product there to satisfy their craving." (William) "Matchmaster is promoting a 'Digimatch' (terrestrial) STB which claims the ability to output both SD and HDF simultaneously. A Topfield STB with USB output can be 'modified' to do the same thing which means the user can go to a recorder in SD and display in HD simultaneously with a minimum of cabling." (IF, Qld.) "Report in South China Morning Post (HK) relates i-Cable is spending HKD300M for upgrade to combat piracy (presently Nagra)." (BR) "In UK, on-line (web) advertising has now become bigger than TV advertising - first time ever. Britons watched TV for an average of 218 minutes per week while those watching TV on Internet was 17% of the total. Meanwhile, ABC has launched iView in Sydney; 6 TV channels with promise of more to come." (Barry) "Jesse Alexander, creator of 'Heroes', 'Lost' is creating a TV show about pirates! Not swashbucklers but those who are innovators forcing technology changes." (Matt)

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